

REMARKS

The present application is related to a pressure sensitive adhesive composition.

Claims 1 - 8 are pending and all claims are rejected. Claims 1, 3, 4, 7, and 8 were rejected under 35 U.S.C. § 102(b) as being anticipated by Hirose et al (U.S. Patent No. 4,463,115) and claims 2, 5, and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hirose as applied to claim 1 above, and further in view of Ueda et al (WO 03/035775), where U.S. Patent No. 7,144,953 was cited as the English equivalent.

Applicant respectfully requests that the above amendment to claim 1 be entered to incorporate the recitations of claim 8 and that claim 8 be cancelled.

No new matter or new issue is raised by this amendment.

Rejection under 35 U.S.C. § 102

On page 2 of the Office Action, claims 1, 3, 4, 7, and 8 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Hirose et al (U.S. Patent No. 4,463,115) ("Hirose").

Applicant's Response

Applicant respectfully submits that claim 1, as amended, and claims dependent thereon are not anticipated by Hirose, because Hirose does not disclose the narrow range of average

molecular weight recited by present claim 1 with sufficient specificity. According to MPEP § 2131.03:

When the prior art discloses a range which touches, overlaps or is within the claimed range, but no specific examples falling within the claimed range are disclosed, a case by case determination must be made as to anticipation. In order to anticipate the claims, the claimed subject matter must be disclosed in the reference with “sufficient specificity to constitute an anticipation under the statute.”

In *Atofina v. Great Lakes Chem. Corp.*, the overlap of a reference’s range of 100 - 500°C with the claimed range of 330 - 500°C did not describe the claimed range with sufficient specificity to anticipate, even though the reference’s preferred range of 150 - 350°C was overlapped. 441 F.3d 991, 999, 78 USPQ2d 1417, 1423 (Fed. Cir. 2006). Similarly, Hirose’s range of 300 - 30,000 average molecular weight does not describe the presently claimed range of 20,000 - 50,000 with sufficient specificity to anticipate the present claims. The present case is even stronger than *Atofina*, because the range recited in presently amended claim 1 does not overlap Hirose’s preferred range of 3,000 - 15,000 average molecular weight, and Hirose does not disclose any embodiments within the presently claimed range, as discussed further below.

The presently claimed invention is directed to a pressure sensitive adhesive composition, which comprises oxyalkylene polymer (A), tackifier resin (B), and curing catalyst (C). Claim 1, as presently amended, recites, in relevant part, an “oxyalkylene polymer . . . having a number average molecular weight of 20,000 to 50,000”

It is a feature of the presently claimed invention that number average molecular weight of the oxyalkylene polymer (A) is 20,000 to 50,000. See page 3, lines 29 - 31 of the specification.

When the number average molecular weight is too low, the pressure sensitive adhesive composition does not possess a high adhesive strength. See page 3, lines 31 to 35 of the specification. When the number average molecular weight is too high, the viscosity becomes excessively high and the workability declines markedly. See page 3, line 35 to page 4, line 3 of the specification.

In Examples 1 to 3 of the present application, the number average molecular weight of each of the polymers (A-1), (A-2) and (A-3) is within the range of 20,000 to 50,000. See page 14, line 27 to page 16, line 2 of the specification. As shown in Table 2 on page 18 of the specification, the pressure sensitive adhesive compositions of Examples 1 to 3 provide pressure sensitive adhesive films having high adhesive strength, i.e., 55.2 N/25 mm, 36.0 N/25 mm and 42.0 N/25 mm, respectively.

On the other hand, the number average molecular weight of the polymer (A-4) in Comparative Example 1 is less than 20,000, and the adhesive film obtained from the composition has adhesive strength of 9.2 N/25 mm, one-sixth of the adhesive strength of Example 1. See page 16, line 34 to page 17, line 2 of the specification and Table 2 on page 18.

Hirose is directed to a pressure sensitive adhesive composition comprising (A) a polyether having at least one silicon-containing hydrolyzable group and (B) a tackifier. Hirose teaches that the molecular weight of polyether is 300 to 30,000, preferably 3,000 to 15,000. See column 3, lines 5 to 12 of Hirose.

Hirose does not disclose the range of the molecular weight with sufficient specificity, but rather merely discloses a broad general range. Moreover, Hirose does not specifically teach polyethers of a high molecular weight, namely 20,000 or higher. On the contrary, Hirose teaches and prefers the use of polyethers of lower molecular weight. In Reference Example 1 of Hirose, the average molecular weight of the obtained polyether is 6,200. See column 5, lines 34 to 36. The molecular weight of the polyether prepared in Reference Example 2 or 3 is also about 8,200, judging from the disclosure.

Hirose teaches that the molecular weight of polyether is preferably 3,000 to 15,000, and specifically discloses polyethers whose molecular weights are not more than about 8,200, far below 20,000. See column 3, lines 5 to 6 of Hirose. Therefore, Applicant respectfully submits that Hirose does not anticipate the range of the number average molecular weight of 20,000 to 50,000 as recited in claim 1 and claims dependent thereon.

Rejection under 35 U.S.C. § 103

On page 3 of the Office Action, claims 2, 5, and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hirose as applied to claim 1 above, and further in view of Ueda (WO 03/035775), where U.S. Patent No. 7,144,953 was cited as the English equivalent (“Ueda”).

Applicant’s Response

Applicant respectfully submits that claim 1, as presently amended, and claims dependent thereon are not rendered obvious by the proposed combination of Hirose and Ueda, because “[a]ny evidence of unexpected results within the narrow range may also render the claims

unobvious.” See MPEP § 2131.03. As explained above, the pressure sensitive adhesive composition of Hirose contains a polyether of a low molecular weight, which corresponds to Comparative Example 1 of the present application. The Hirose composition does not provide a pressure sensitive adhesive film having a high adhesive strength. Further, Hirose does not teach that a high adhesive strength is obtained by using polyethers of high molecular weights. Accordingly, the effect of the present invention cannot be expected from Hirose.

Since Hirose teaches the use of polyethers of low molecular weights and the effect of the present invention cannot be expected from Hirose, a person having ordinary skill in the art would have no motivation to use a polyether of a high molecular weight. Therefore, the present invention is not rendered obvious by Hirose, even if it is combined with Ueda.

Additionally, based on page 5, lines 10 to 13 of the Office Action, it is understood that the Examiner considers that the teaching of at least one hydrolyzable group in Hirose can be interpreted as an oxyalkylene polymer having 0.5 equivalents of a hydrolyzable silyl group per each polymer.

“At least one hydrolyzable group” of course means that one polymer molecule has one or more hydrolyzable groups, but does not necessarily mean 0.5 equivalent of hydrolyzable silyl groups.

In view of the above, Applicant respectfully submits that the proposed combination of Hirose and Ueda does not render the present claims obvious.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby earnestly solicited.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the local Washington, D.C. telephone number listed below.

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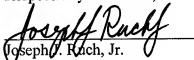
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Respectfully submitted,


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